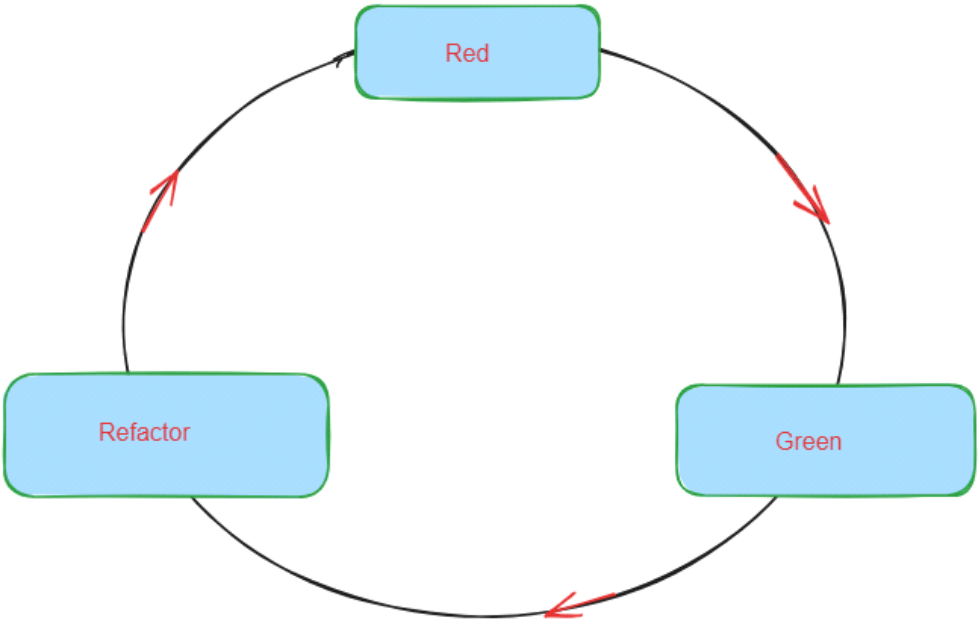
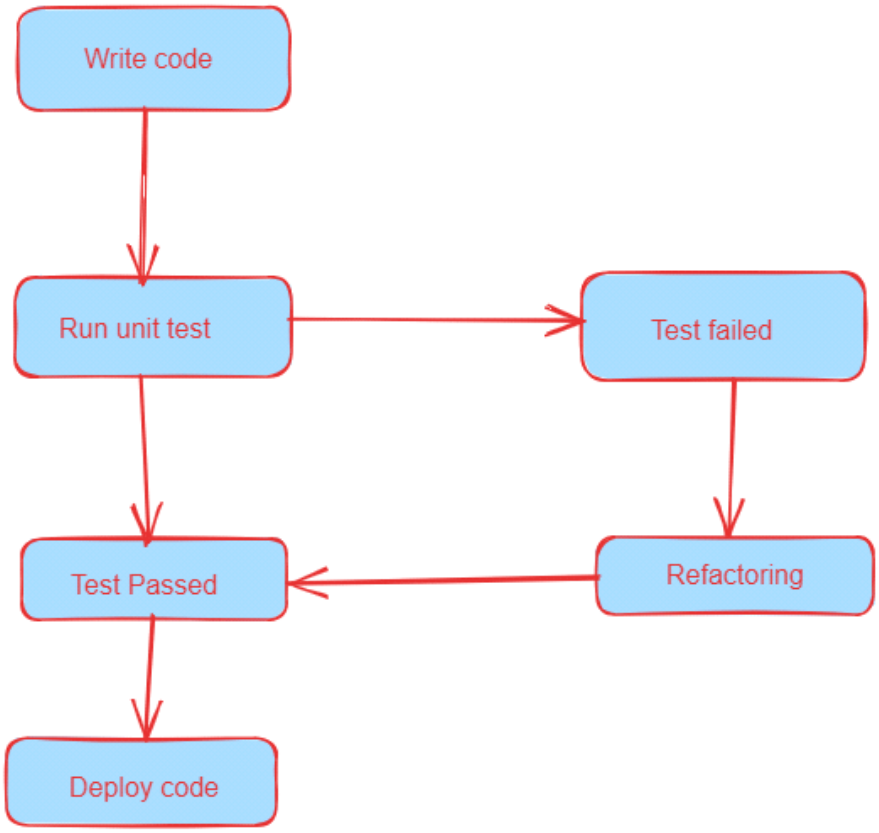
Assignment 1: Create an infographic illustrating the Test-Driven Development (TDD) process. Highlight steps like writing tests before code, benefits such as bug reduction, and how it fosters software reliability.

1. TDD-->
The evolution of agile development has introduce many pragmatic practices for delivering quality software at high speed.test driven development is practice now recognized as an efficient approach as an efficient approach that drives positive result.
In tdd developer create small test cases for every feature based on their understanding.The primary intention of this is to modify or write new code only if tests fail.this prevents duplication of test scripts.

It is done is 3 phases-





1. Red->
   Create test cases and make it fail.
2. Green->
   Make the test Case pass by any means. pass the failed test case in red phase.
3. Refactor->
   Change the code to remove duplicate/redundancy. make it readable.

Steps in TDD-->

1. Write a Test:
   Start by writing a test that fails since the corresponding code doesn't exist yet.

2. Run the Test:
   Running the test verifies its failure, indicating the need for code implementation.

3. Write the Code:
   Write the minimal code necessary to pass the failing test.

4. Run All Tests:
   Run all existing tests to confirm the new code doesn't introduce regressions.

5. Refactor Code:
   Refactor the code to enhance readability, performance, or maintainability while

ensuring all tests continue to pass.

Importance and Advantages of TDD--->
1. Imporove thr code quality.
2. Bug less code.
3. Provides rapid.
4. collabration.
5. faster feedback.
6. Reduce Cost.
7. Large test case cover.
8. Productivity increase.
9. Documented
10. maintenable code
11. Bugs being caught early in the development process

Disadvantages-->
1. Time Consuming.
2. Slow down Process.
3. Maintain